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AN INVESTIGATION OF SELF-ESTEEM AND COMMUNICATION MODES OF HEARING-IMPAIRED STUDENTS

by

GRACE A. LEBLANC

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(SIGNED) G A LeBlanc

PERMANENT ADDRESS:

64 Hamilton Crescent
Edmonton Alta

DATED July 18 19 83

THE UNIVERSITY OF ALBERTA

FACULTY OF GRADUATE STUDIES AND RESEARCH

The undersigned certify that they have read, and recommend to the Faculty of Graduate Studies and Research, for acceptance, a thesis entitled AN INVESTIGATION OF SELF-ESTEEM AND COMMUNICATION MODES OF HEARING-IMPAIRED STUDENTS submitted by GRACE A. LEBLANC in partial fulfilment of the requirements for the degree of MASTER OF EDUCATION in SPECIAL EDUCATION.

M. Rodda

Supervisor

Patricia Wood

Date 22nd June 1983

ABSTRACT

Descriptions of self-esteem exist in current psychological literature. However, investigations of self-esteem in deaf populations have often been difficult to interpret owing to the English language difficulty of printed questionnaires.

This study was designed to examine the self-esteem of prelingual deaf students in a school for the deaf, selected according to level of hearing loss, reading comprehension scores, and receptive comprehension skills in American Sign Language, as a function of the variables of mode of communication used in administering the test and teacher ratings of student's self-esteem.

Measures of self-esteem were obtained for the twenty-seven subjects by administering to them the *Canadian Self-esteem Inventory for Children* in three different communication modes: 1. reading; 2. American Sign Language, a visual-gestural language using signs which represent concepts; and 3. Manually Coded English, a sign coding system following English word order. The teachers administering the tests filled in a *Teacher Behavior Rating Form* for each student.

Data were analyzed using a two-way analysis of variance, Pearson product moment correlation design and pooled correlations, and alpha-factoring with varimax rotation. The two-way analysis of variance indicated no statistically significant difference in mode of administration on self-esteem scores. Fisher's r to Z pooled correlational values indicated no statistically significant relationship between students' self-rated self-esteem and teachers' ratings but the analysis did indicate a significant correlation between all pairs of the three methods of communication. Alpha-factoring with varimax rotation confirmed the intercorrelations of the three communication modes with self-esteem scores.

In conclusion, this study indicates that a shared mode of communication and peer reference groups in a school setting give positive reinforcement in the development of self-esteem in prelingually deaf students.

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Table of Contents

Chapter		Page
I.	INTRODUCTION	1
	A. Background To The Study	3
	Methodological And Educational Problems	3
	B. Teacher-Student Interactions	5
	C. Self-Evaluation	6
	D. Purpose Of The Study	7
	E. Definition Of Terms	7
	Hearing Impairment	7
	Deafness / Deaf	8
	Prelingually Deaf	8
	Self-Concept	8
	Self-Esteem	8
	Affective Domain	8
	Reading Ability	8
	Mode Of Communication	9
	F. Overview Of The Study	9
II.	SURVEY OF RELATED LITERATURE AND RESEARCH	10
	A. Introduction And Chapter Overview	10
	B. Self-Esteem	10
	Definitions	10
	Positive And Negative Self-Esteem	12
	Parental Attitudes	13
	Familial Acceptance Of A Deaf Child	14
	Societal Attitudes Regarding Deafness	16
	Deaf Responses To Society Attitudes	17
	Teachers' Attitudes Towards Students	19
	C. Measuring Self-Esteem	20
	D. Communication Methods For Deaf Children	25
	Oral Language - English	25

Overview of Manual Communication 28
American Sign Language 29
Manually Coded English 31
E. Integration 32
Question 1 33
Question 2 34
III. METHODOLOGY: THE RESEARCH DESIGN 35
A. Description Of The Instruments 35
The Canadian Self-esteem Inventory for Children 35
Teacher Behavior Rating Form 36
B. Description Of The Sample 36
C. Testers 37
D. Procedure For Data Collection 37
E. Assumptions 40
IV. DATA ANALYSIS AND RESULTS 41
V. DISCUSSION AND IMPLICATIONS 49
A. Summary Of The Study 49
B. Mean Self-esteem Of Hearing-Impaired Students 51
C. Limitations Of The Study 52
D. Suggestions For Further Research 53
E. Concluding Statement 54
REFERENCES 56
APPENDIX A: Spache Formula And Fog Formula 67
APPENDIX B: ASL Receptive Comprehension Measure 70

List of Tables

Table		Page
III.1	The Three Groups Matched According To: Age, Day/Resident Status, Sex And Reading Comprehension	38
III.2	Test Design Administration Schedule	40
IV.1	Analysis of Variance Summary Table	42
IV.2	Tukey Test On Time Factor	43
IV.3	Treatment Means	44
IV.4	Relationships Between Teacher Ratings of Self-esteem (T.R.)and the Canadian Self-Esteem Inventory As Administered Under 3 Conditions	45
IV.5	*A Posteriori* Analysis of Self-esteem And Descriptive Variables (Unpooled Correlations with .30 Cutoff)	47
IV.6	Varimax Rotated Factor Matrix	48

List of Figures

Figure — Page

II.1 Manual Codes For English On The ASL-English Continuum 30

I. INTRODUCTION

A sense of personal adequacy is a basic need of each individual (Combs and Snygg, 1959). This need expresses itself in a wide variety of behaviors aimed at maintaining or enhancing the individual's perceptions of personal worth of self. A well adjusted person possesses positive self-esteem and demonstrates appropriate and effective behavior patterns in the context of the social situation.

Although the importance of a positive self-concept is a recognized fact in psychological literature, the concept itself is elusive. Zisfein and Rosen (1974) found that operational definitions of self-concept vary from study to study, and generalizations are difficult because instrumentation has been so diverse. Shavelson, Hubner and Stanton (1976) noted that a review of self-concept instruments revealed seventeen different conceptual dimensions on which the instruments could be classified. Some of these dimensions were: 1. emphasis on a stable or changing self-concept; 2. methods for changing self-concept; 3. determinants of self-concept; 4. types of evaluation; and 5. dimensionality of self-structure (Shavelson *et al*, 1976, p. 409). This study will focus mainly on the determinants of self-concept for the hearing-impaired.

Research examining the effects of deafness on the development of the self-concept has progressed slowly, possibly due to the complexities involved with the measurement of the behavior from which the concept can be inferred. However, as Garrison and Tesch (1978) note, the discovery of fire or the use of language was not dependent upon sophisticated instruments. They were first learned through observation, as was the concept of time. The fact that behavior is subjective should not automatically preclude its measurability (Bennett, 1964).

A partial explanation for the slow progress of research relating self-concept to other personal and educational variables involved with deaf students appears to be in the assumption that a high level of language processing is essential for the development of self (Mead, 1956). Implicit in this assumption is the idea that *language* means the spoken and written aural-oral language of the majority culture. Recent research on the validity of self-concept instruments, especially paper-and-pencil inventories, has indicated that caution must be observed in interpreting the responses of deaf students. Rudner (1978) identified six English linguistic structures which biased items against deaf respondents on a

written achievement inventory. These were:

1. conditionals: if, when;
2. comparatives: greater than, the most
3. negatives: not, without, answer not given
4. inferentials: should, could, because, since
5. low information pronouns: it, something
6. lengthly passages

Rudner (1978) defined item bias as occurring "when an item behaves differently for members of two different culture groups" (p. 33). Garrison, Tesch and DeCaro (1978) interviewed deaf adolescents regarding their understanding of items on the *Tennessee Self Concept Scale (TSCS)* and found that the respondents made idiosyncratic interpretations of many items without being aware that their understanding was incomplete. Test validity is severely impaired when the language of the test becomes as much or more of a problem than the task which is to be tested (Craig, 1965).

In the area of programmatic interventions and enhancement of self-concept, Kohl (1967) suggested that the use and encouragement of sign-language as an element of deaf cultural life may enhance the self-concept of deaf persons. This position is similar to that of Sotomayer (1977), who observed that the native language instruction of ethnic minority groups may foster the development of self-identity and self-confidence in school settings. Several authors (Erting, 1978; Robinson, 1978; Schein, 1978; Zakarewsky, 1979) maintain that the strongest factor consolidating the deaf community is a group identity where membership is defined by language rather than the ethnic culture of the individual's family. This language is *American Sign Language*[1] (ASL) and "is the primary cultural symbol and is the language of interaction among members of the deaf ethnic group" (Erting, 1978, p. 139).

The deaf community is similar to many other groups with organizations, businesses and clubs; but it is distinct in that only ten percent to twelve percent of deaf children are born to parents who are also deaf (Schein and Delk, 1974). This situation creates an unusual enculturation pattern as group norms are not passed from hearing parents to deaf children. Rather, most deaf children learn social norms by attending residential schools for

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[1]American Sign Language (ASL) is the dominant sign language system used by the deaf community in Central and Western Canada.

the deaf or day schools with other deaf children and learn language from their peers and teachers acting as parent surrogates (Shaul, 1981).

A. Background To The Study

Methodological And Educational Problems

Much of the research in the area of self-concept is mainly concerned with the relationship between self-concept and academic achievement and is not specifically related to deaf students (Boersma, Chapman, Battle, 1979; Borg, 1966; Brookover, Erickson, Joiner, 1967; Goldberg, Passow, Justman, 1966; Purkey, 1970). Studies which have been done in the deaf area focus primarily on the effects of the educational-setting on the students' self-concept compared with the normally hearing. However, there tends to be a discrepancy between the results of these studies. For example, while Craig (1965) and Brunschwig (1936) found a tendency toward inflated self-concept in deaf children in residential schools, Levine (1960) and Sussman (1973) observed the opposite.

It was noted by Moores (1978) that the testers in the above studies had normal hearing, the subjects had to rely on oral communication, and the vocabulary of the test was often unfamiliar to the students (p. 145). When manual communication has been used for testing, the situation has tended to be artificial, as in Levine's (1956) Rorschach assessment of thirty-one teenage females at a residential school for the deaf. While the subjects were free to respond to questions using speech, signs and gestures, the testers used speech only, and the subjects all attended the Lexington School for the Deaf, an oral-only school which did not allow the use of signs in the classroom (Moores, 1978).

McLaughlin (1980) has been the only deaf researcher in Canada to study self-concept in relation to educational setting using manually signed concepts in the test administration. However, McLaughlin (1980) used twenty-three teachers as testers in four different educational settings throughout British Columbia. Most of the testers had normal hearing and were not native users of signs. The testers were free to use any mode of communciation--speech, Manually Coded English, ASL, gestures,or a combination thereof--but three-quarters of the testers were employed in regular hearing schools where the primary means of communication was aural-oral.

Many researchers with experience in deafness (Donoghue, 1968; Garrison, Tesch and DeCaro, 1978; Heider and Heider, 1941; Levine, 1960; Lewis, 1968; Myklebust, 1960) have felt constrained to qualify their findings due to the overall English language deficit associated with early, profound deafness. As Levine (1960) indicated:

> Many of the instruments used assume a level of communicative interaction that may not exist between testers and some deaf testees (pp. 51, 52).

A review of the literature to date has not revealed a self-concept study employing a native[2] sign user in the testing situation with deaf subjects although researchers (Baker and Cokely, 1980; Klima and Bellugi, 1979; Stokoe, 1972) have shown that a natural sign language such as ASL is often the first language of deaf children.

A possible explanation for previous disparate research findings may be found in the negative attitudes some professionals and parents have held toward sign language (Baker and Cokely, 1980) and manual communications in general. Although in the mid-nineteenth century the first schools for the deaf in North America were manually orientated, the oral-only philosophy of education dominated the instruction of the deaf until the 1960's. Beginning in the 'sixties, older students in Intermediate and Senior classes in schools for the deaf were allowed to use the *Rochester Method* of coded visible English (Brill, 1974). In the decade of the 'seventies, schools in North America started using newly devised *Manually Coded English (MCE)* systems as the mode of classroom instruction for the deaf. However, some linguists have questioned whether these codes can adequately and completely represent English (Charrow, 1976; Markowicz, 1974, 1977-1978; Stokoe, 1975; Woodward, 1973). They feel that these codes are visual-gestural in nature, and since English is aural-oral, these codes can never completely represent the English language.

To date, no school system for the deaf in Canada has adopted ASL as a method of classroom instruction in self-development classes although many studies have indicated that the early use of manual communication by deaf parents has a positive effect on the psycho-social development of deaf children (Harris, 1978; Meadow, 1968; Vernon and Koh, 1970).

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[2]A native sign user is defined in this study as a deaf person with deaf parents using sign language as the first language of communication.

The recognition of ASL as a positive construct in personality testing and assessment is an area which as yet has not been fully explored in the research. Garrison and Tesch (1978), in their review of the research literature, pointed out that

> Little has appeared in the psychological literature relating to specific instructional strategies to promote the affective growth of the deaf individual. Nevertheless, it would appear that a need for such a body of information exists. (p. 464).

B. Teacher-Student Interactions

The literature which considers the importance of person–environment interactions and the consequent effects on behavior shows less conflict and divergence than the literature on methodology and educational problems (Meadow, 1968, 1969; Neuhaus, 1969; Pervin, 1968). According to Pervin (1968), interactionist theory assumes that for each individual there are environments which more or less match personality characteristics.

> A "match" or "best fit" of individual to environment is viewed as expressing itself in high performance, satisfaction and little stress in the system whereas a "lack of fit" is viewed as resulting in decreased performance, dissatisfaction, and stress in the system (p. 56)

High performance and satisfaction are directly related to positive self–concept whereas the opposite holds for low self–concept (Coopersmith, 1967).

A definite relationship exists between the way students feel about themselves and the way their teachers feel about them (Bowers, 1973; Combs, 1962; Coopersmith, 1959; Davidson and Lang, 1960; Pervin, 1968; Wylie, 1961; Yamamoto, 1972). As Bowers (1973) notes, this relationship

> ...emerges out of a continuously renewed equilibrium or balance between the knower and the known – between assimilation and accomodation....a balanced relationship between the observer and the observed (pp. 330,331).

Beck (1964), Fancher (1966) and Norman, (1969) have presented evidence showing that the correlation between observer ratings and self–ratings of persons observed increases as a function of the rater's familiarity with the person. Other researchers have found that teachers judged students on behavior rating forms much as students judged themselves on self–reports (Battle, 1979; Borg, 1966; Coopersmith, 1959; Perkins, 1958). Perkins (1958) noted that teachers' perceptions of children's self–concepts are in general positively and significantly related to the children's expressed

self-concepts. Assessment by teachers, as significant others, becomes part of a circular pattern of interaction in which a child's assessment of himself is influenced by the assessment that teachers make of him.

C. Self-Evaluation

Another important aspect of self-concept is the evaluative component in which the individual develops a description of himself/herself and forms evaluations of himself/herself through interactions with significant others. Evaluations can be made against absolute standards, such as the *ideal*, or they can be made against perceived standards such as *peers* or *significant others*. The evaluative dimension can vary in importance for different individuals but as Beck (1964) states:

> Since students themselves are the primary and ultimate source of information on their own opinions, we must accept their opinions as valid, for there is no higher authority to which appeal can be made. Their verdicts concerning their own opinions are, therefore as valid or true as they are reliable. Here is one situation in which it can be said that validity is synonymous with reliability (p. 29).

However, as Shavelson, *et al* (1976) notes, the distinction between self-description and self-evaluation has not been fully clarified either conceptually or empirically. "Accordingly, the terms *self-concept* and *self-esteem* have been used interchangeably in the literature" (p. 415). This thesis follows similar usage in the review of the literature but employs self-esteem as the evaluational component of self-concept in the measurement situation.

In summary, research on the effects of deafness on the development of the self-concept has progressed slowly since Brunschwig's (1936) study of the general assessment of deaf children. Undoubtedly, this slow rate of progress can be related to methodological and educational problems involving trait measurement. While the self-concept cannot be measured directly, it can be inferred from behavior and self-report. Battle (1979) and Coopersmith (1967) support Kelly's (1967) premise that, "...in spite of their known fallibility, human judges (*teachers*) tend to show considerable agreement in the assessment of traits" (p. 60). Yamamoto (1972) pointed out that there are many seemingly unimportant and trivial aspects of behavior that can make a significant contribution to the teacher's understanding of a child's self-concept.

Perkins (1958) suggested that phenomenon of the self-concept can serve education in a significant way:

> ...as a vital and important aspect of learning and development which the school through its educational processes seeks to promote and foster in every child (pp. 203-204).

It is possible to speculate that differences in methodology may reflect differences in self-concept, given a common situation with deaf students. There is also the possibility of identifying specific factors in the deaf person's situation which affect his or her concept of self.

D. Purpose Of The Study

Given the variety of measures used and the range of findings concerning self-concept levels among the deaf, it is unclear whether the deaf individual experiences difficulty in self-concept development or if disparities in research findings represent an artifact of the measurement used. The objectives of this investigation were:

1. to study the self-concept levels of prelingually deaf students using three different methods of language communication in administering the questionnaires; and
2. to examine the relationship between teacher ratings of students and students' self-ratings.

The findings of the study were intended to increase our understanding of the deaf student's affective development and to promote additional awareness of the whole child.

E. Definition Of Terms

The following section provides definitions of the terminology used in this study.

Hearing Impairment

Hearing impairment is a generic term indicating an average hearing loss for pure tones in the speech frequencies of 500 Hertz, 1000 Hertz and 2000 Hertz. It ranges in severity from mild (25 dB) to profound (91 dB and greater). It includes the subsets of deaf and hard-of-hearing.

Deafness / Deaf

In this study, the term *deafness* or *deaf* refers to a hearing threshold level greater than 76 dB (Schein and Delk, 1974) unaided. For each individual, the average threshold, expressed in dB, equals the mean of the pure tone thresholds obtained at 500 Hertz, 1000 Hertz and 2000 Hertz for the better ear, using *American National Standards Institute* (ANSI) criteria (Davis and Silverman, 1978, p. 434, Appendix A).

Prelingually Deaf

Prelingually deaf refers to a hearing loss present at birth or prior to the development of speech or language before the age of approximately two years. Only the prelingually deaf were considered in this study.

Self-Concept

Self-concept refers to the organization of all the ways an individual has to see himself (Combs and Snygg, 1959). It is a group of feelings and cognitive processes which are private, personal, and unique to each individual; a system of ideas, attitudes, values and commitments. It is the gestalt map of experience and significance (Jersild, 1952).

Self-Esteem

Self-esteem refers to the useful approximation to and the evaluational component of self-concept (Zisfein and Rosen, 1974). As measured by the *Canadian Self-Esteem Inventory* [3] (Battle, 1976), self-esteem is the preception one has of his own worth.

Affective Domain

Affective domain refers to a student's feelings and values.

Reading Ability

Reading ability, in this study, refers to that skill which is measured by the *Reading Comprehension* sub-test of the *Stanford Achievement Test*, Special Edition for Hearing Impaired Students.

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[3]The Canadian Self-esteem Inventory for Children has been renamed the Culture-Free SEI for Children (Battle, 1981).

Mode Of Communication

Mode of communication refers to the language communication system used by the teachers in administering the questionnaires, classified as either: (i) Reading, (ii) Sign Language using Manually Coded English (MCE), or (iii) American Sign Language (ASL).

F. Overview Of The Study

In this chapter an introduction to the problem has been stated which has included the general background, a statement, and a definition of terms.

In Chapter II the research and literature related to self-esteem, attitudes of others, measurement problems and communication methods used by the deaf are reviewed. The researcher integrates the variables from which the research questions are drawn.

In Chapter III, a description of the sample, the instruments to be used and the procedures for collection of data are outlined. Assumptions and limitations are also stated.

In Chapter IV the analysis and results of the data are presented.

In Chapter V the results and conclusions of the study are stated. Implications for deaf students and suggestions for further research are given.

II. SURVEY OF RELATED LITERATURE AND RESEARCH

A. Introduction And Chapter Overview

The self, as a psychological construct, has evolved along with the discipline of psychology since 1879 when Wundt established his laboratory in Leipzig (Giorgi, 1970). Throughout the short history of psychology, various theorists have described how the self develops along with self-esteem.

In the first section a review of the literature related to the evaluational component of the self, known as self-esteem, is presented. The literature on the variables of positive and negative self-esteem, attitudes of significant others and measurement problems related to self-esteem and deafness are reviewed.

A survey of the literature on the independent variables of oral English, American Sign Language and Manually Coded English systems follows.

In conclusion, an attempt was made to integrate the independent variables and thereby demonstrate the significance of their relationship to the dependent variable of self-esteem. Research questions are drawn from the integration of the variables.

B. Self-Esteem

Definitions

As Shavelson *et al* (1976) noted, the distinction between self-description and self-evaluation has not been fully clarified in the literature. However, in an attempt to develop an understanding of self-esteem as the evaluational component of self, numerous views of the construct are outlined.

James (1918) was the first to discuss self-esteem as "one's actual success or failure, and the good or bad actual position one holds in the world" (Coopersmith, 1967, p. 30). James proposed the following fraction to describe self-esteem:

$$\text{SELF-ESTEEM} = \frac{\text{SUCCESS}}{\text{PRETENSIONS}}$$

Fifty years later, Coopersmith (1967) expanded on James' description and this appears to

be the one most commmonly used at present.

> Self-esteem refers to the evaluation which the individual makes and customarily maintains with regard to himself. It expresses an attitude of approval or disapproval and indicates the extent to which the individual believes himself to be capable, significant, successful and worthy. In short, self-esteem is a personal judgement of worthiness that is expressed in the attitude the individual holds toward himself. (p. 4 - 5).

In a slightly later development, Battle (1976) constructed his self-esteem inventory based on a similar definition: "Self-esteem as measured by the Canadian Self-esteem Inventory for Children refers to the perception the individual has of his own worth" (p. 16).

Many psychologists (Cooley, 1902; Coopersmith, 1959; Felker, 1974; Levita, 1965; Mead, 1934; Mischel, 1977; and Rosenberg, 1965) agree with James (1918) that self-esteem is dependent upon aspirations, values and successes in comparison with what others think of the individual. Mischel (1977) termed this the individual's existing *frame of reference*, and Coopersmith (1959) termed it *group norms and values*. The relevance of the group, or culture, as an important variable in individual self-esteem was also noted by Murphy (1947) who stated that the tendency to value or devalue the self is correlated with the approval of significant others. In addition, Mischel (1977) noted that self-esteem is changeable in the context of the social environment. He stated:

> As the messages received from others that regulate one's self-worth are varied, one's concepts of self (along with valuational associations) may change. Self-esteem may then be regarded as not an enduring sub-stratum of experience, but as inextricably linked to the social context, and freely dependent on it for strength (p. 146).

Thus, continuous learning experiences influence self-esteem so that newer portraits of self are accumulating and emerging at the same time (Combs and Snygg, 1959). Accordingly, Levita (1965) referred to self-esteem as being the end result of self-evaluation, that it "depends on the nature of the inner image against which we measure our own self" (p. 81). Wylie (1961) defined self-esteem as the degree of congruence between real self and ideal self. Erickson (1963) believed self-esteem to be a sense of feeling of belonging; Diggory (1966) thought of it as a feeling of competence, and Jersild (1963) described it as a feeling of worth. Felker (1974) summarized his views by stating that "self-esteem is an individual's general evaluation of himself which functions like an umbrella over all of his everyday behavior" (p. 23).

Thus, although definitions of self-esteem are many and varied, they appear to have in common the person's perception of worth or evaluations which he/she customarily

makes of himself/herself.

Closely related to the above assumption is the assumption that self-esteem is one component of the larger composite of self-concept.

Smith (1960) discussed five dimensions of self-concept: (i) self-esteem, (ii) anxiety-tension, (iii) independence, (iv) estrangement and (v) body image. *Factor One* (self-esteem) is a "broad dimension weighted at the positive pole by success and satisfaction with life's affairs" (Smith, p. 191). Smith pointed out that self-esteem appears to be the domain implied by most writers when they refer to self-concept. In agreement with Smith's (1960) view, Berger (1968) suggested that self-esteem is not a unidimensional variable, but is composed instead of a number of relatively independent dimensions which are all encompassed within the larger domain of self-concept.

Thus, while the literature on self-concept generally refers to the global constructs of personality and the gestalt of all experience, self-esteem is seen as a dimension of and the evaluational component of self-concept. Much of the literature also mentions positive and negative self-esteem and the relationship with individual behavior.

Positive And Negative Self-Esteem

The behavioral differences between persons with positive or negative self-esteem has been the focus of many theoretical considerations and empirical investigations (Combs and Snygg, 1959; Coopersmith, 1959; Hamachek, 1971; Janis, 1954; Mischel, 1977; Rosenberg, 1965; Woolner, 1966). Most authors are in agreement with Coopersmith's (1959) premise that individuals who differ in self-esteem behave in markedly different fashions.

Coopersmith (1967) defined a number of attributes characteristic of individuals possessing high self-esteem. These included leadership, independence, popularity, pride, confidence and lack of self-consciousness. Individuals low in self-esteem possessed such characteristic feelings as timidity, anxiety, insecurity, submissiveness, depression, inferiority, self-hatred and self-consciousness.

Janis (1954) indicated that persons possessing low self-esteem are less capable of resisting pressures to conform. Similarly, Rosenberg (1965) pointed out that persons with low self-esteem are highly sensitive to any evidence which points to their perceived

worthiness. He states that these people are therefore highly vulnerable to such techniques as criticizing, scolding or blaming. According to Woolner (1966), children with low self-esteem often produce unacceptable behavior, such as unco-operativeness, under-achievement and maladjustments.

At the other end of the postive-negative continuum, Cohen (1959) noted that people with high (positive) self-esteem tended to protect themselves from negative self-evaluation. This is in agreement with Janis (1954) who indicated that persons possessing high self-esteem were more able to maintain a fairly constant image of their capabilities and of their distinctiveness as a person. Avila, Combs, and Purkey (1971) added to this dimension by noting that self-actualized people saw themselves in such positive ways as "liked, wanted, acceptable, able, dignified and worthy" (p. 400). Coopersmith (1967) also noted that "persons high in self-esteem are happier and more effective in meeting environmental demands than are persons with low self-esteem" (p. 19).

Parental Attitudes

The development of positive or negative self-esteem is not accomplished in isolation, but, as reviewed previously, is the ongoing evaluation the person makes of himself in social interaction with others. The primary contact of the young child is the parents whose love, acceptance, rejection or denial of the child has a significant influence on personality development. As Luker (1978) reported on Schaefer's investigation of parenting atmospheres:

> Where we find parents who give love and autonomy, the chances are that the children are going to be happy, outgoing, successfully aggressive--that is, within our bounds of conformity--and by all odds, they are going to have the best self-image (p. 14).

Meadow (1968, 1969) investigated the developing self-image of deaf children using symbolic interactionist theory and found that problems in personality development were the result of experiences of negative feedback from important others. She compared fifty-eight children of deaf parents with a matched group of deaf children of hearing parents, who in Meadow's view, were more likely to react negatively to their child's disability. Her hypothesis was supported by results which showed that children from homes with deaf parents and positive family climate obtained the highest scores on a

self-image test devised for use with deaf children, and on teacher-counsellor ratings of self-esteem and self-confidence. Meadow attributed the more positive self-image scores of the children of deaf parents to the presence of family manual communication, the family's less traumatic reaction to the diagnosis of deafness, and the identity match in terms of handicap, providing the deaf child with a positive role model (Meadow, 1980).

Neuhaus' (1969) investigation was in agreement with Meadow's results. He found that ratings of emotional adjustment of deaf children and adolescents to be significantly related to positive parental attitudes toward children as measured by his questionnaire. Brill (1960) also used ratings of adjustment to compare equal sized groups of deaf children from families with deaf parents, hearing parents, and hearing parents with one other deaf child. Brill's results showed that deaf children with deaf parents and other deaf siblings received more ratings at both the positive and negative ends of the adjustment scale, in comparison with deaf children of hearing parents. These results provide evidence that the quality (either positive or negative) of interaction between the deaf child and the parents is related to the evaluational aspect of self-esteem.

Familial Acceptance Of A Deaf Child

This discussion deals only with those families where both parents have normal hearing since approximately ninety percent of deaf children are born to hearing parents (Schein and Delk, 1974). Furthermore, only prelingual deafness is discussed because the family situation concerning postlingual deafness is quite different. Levine (1981) provides a comprehensive bibliography for readers interested in the psychology of postlingual deafness and deaf children of deaf parents.

The diagnostic process is most often a traumatic experience for parents, due to the invisible nature of the handicap and the ambiguous symptoms of deafness. Family doctors and pediatricians usually have little or no experience in recognizing the symptoms of deafness and the symptoms are sometimes confused with mental retardation or emotional disturbances (Moores, 1978). This confusion can cause a delay in diagnosis from between 9.7 months for the profoundly deaf child to 16.4 months for the severely deaf child (Freeman, 1977, p. 284).

When parental suspicion of their child's deafness is confirmed, one of their first reactions may be of numbness, shock and pain (Allen and Allen, 1979). They are emotionally shocked by the fact that the child they thought they knew is actually an entirely different person, separated from them by a sound barrier they are unable to penetrate and a physical condition of which they have little experience or knowledge.

Practical considerations impinge upon the family immediately. Medical care, consultations with specialists, and fitting the child with an aid require immediate time and attention. (Thompson, Thompson and Murphy, 1979). Because most parents lack knowledge about deafness, there is uncertainty about whether the child will ever be self-sufficient and eventually assume a productive role in society or whether the child will constitute a life-long burden, emotionally and financially draining the resources of the family. Many parents also suffer feelings of guilt and responsibility regarding the cause of their child's deafness. Some even interpret their child's deafness as God's way of punishing them for past sins (Moores, 1978).

Feelings of denial and rationalization are also prevalent with many parents and they begin making determined efforts to convert the deaf child into a hearing person by embarking on many "vain pilgrimages" from doctor to doctor in search of a cure. For most prelingually deaf children, there are no medical cures, and as Moores (1978) pointed out, "none are projected for the foreseeable future" (p. 97). With the medical avenue closed off to them, many parents then turn to mechanical devices and special instructional programs in their desire for the child to be *normal*. As for example, Freeman (1976) and Moores (1978) have noted that hidden within the meaning of normalcy is the desire for the child to be an extension of themselves and to communicate in the *normal* manner, that is, through speech.

Parents who never work through their trauma and sorrow to achieve a mature acceptance of deafness assume an extra burden of unacknowledged grief and pretense. For some, the word deaf is anathema, being replaced with such terms such as auditorily handicapped, hearing handicapped, and hard of hearing (Moores, 1978). The pretense is maintained in front of the child but unresolved tensions will not go unnoticed by the deaf child. Children gain their first and most important perceptions and reflections about themselves, and thus their self-concept and self-esteem, through their interactions with

their parents. When the child senses the negative feelings his parents unwittingly display toward him because of deafness, the child can easily become accustomed to perceiving himself in a negative manner which will undoubtably affect his self-esteem (Cohen, 1980).

Societal Attitudes Regarding Deafness

According to Meadow (1980), the cultural attitudes which *society* displays towards the handicap of deafness will exert a profound influence on the deaf child and his family because:

> Profound deafness is much more than a medical diagnosis: it is a cultural phenomenon in which social, emotional, linguistic, and intellectual patterns and problems are inextricably bound together. (p. 152).

Historically, society has viewed deaf people with a mixture of fear, scorn, distaste, misunderstanding and pity. They shared, along with other handicapped people, the stigma of imperfection. While the ancient Greeks probably did not leave deaf babies on a mountainside to die because their handicap was invisible and undetectable at birth, the Romans usually killed all children over the age of three who appeared to be destined to become a liability of the state (Meadow, 1980). Aristotle thought the ear to be the most important organ of instruction and believed that hearing contributed the most to intelligence (Moores, 1978). The Justinian Code of 534 A.D. denied legal rights and obligations to those who were deaf and mute from birth and also illiterate. Guardians were appointed to conduct deaf peoples' affairs and the church did not permit them to marry (Bender, 1960). The ability to speak was considered to be the test of intelligence, but, as deaf people were seen to be inherently uneducable because they could not hear, no attempt was made to teach them language. With language unavailable, the attributes of intelligence did not develop. "Thus, the belief in the stupidity of deaf people was a self-fulfilling prophecy" (Meadow, 1980, p. 160).

The beginning of the end of the dark ages for the deaf occurred in the sixteenth century in Spain when a Benedictine monk succeeded in teaching several young deaf Spanish noblemen not only to read and write, but also to speak. Since speech was a prerequisite for legal rights, the noble families not only had the financial means but also the financial motivation for finding teachers for their children.

Although society's attitude toward handicapped people has vastly improved since the Ancient and Middle Ages, some negative attitudes remain. Goffman (1963) argued that if individuals possess handicaps which carry with them negative social connotations, they may learn to regard themselves with the same negative connotations that society attributes to their handicap. The deaf child's handicap is hidden until he/she attempts to communicate. It is then that society and peers become aware that the child is different. Few severely deaf children or adults are able to master the complexities of speech with even reasonable fluency because they do not hear all the sounds of the speech range. Their speech, if it is intelligible to the untrained ear, may be characterized by lack of intonation and pitch, exaggerated efforts to articulate sounds, inappropriate pauses, syllables inadequately or incorrectly stressed, poor rhythm, and inadequate breath control (Nickerson, 1975).

If the deaf child uses sign language, the handicap is immediately visible and identifies her or him as a member of the deaf community. Where the use of speech, speechreading and hearing aids enable the deaf person to *pass*, that is, reflects an accommodation to the norms, values and expectations of the majority culture, the use of signs, in Goffman's (1963) terms, is perceived as causing the deaf person to be discredited because he/she insists on communicating differently. Thus, the stigma is the discrepancy between the assigned identity and the real or social identity when the deaf try to communicate with the hearing. Societal reaction, or rejection, of a deaf person's attempts to communicate may have damaging effects on his or her self-esteem.

Deaf Responses To Society Attitudes

Other researchers have investigated deaf persons' responses to others' evaluations. These studies indicated that the deaf perceived the hearing as having negative feelings towards deaf people (Barker, 1953; Heider and Heider, 1941; Heiner, 1949; Rainer, Altshuler and Kallmann, 1969).

A more intensive contemporary study of deaf peoples' attitudes toward deafness was conducted by Sussman (1973) in an investigation of the self-concepts of deaf adults living in New York city. Using the Disability Factor Scale for Deafness, and the Tennessee Self-Concept Scale, Sussman concluded that the self-concepts of the 129 subjects were

significantly more negative than hearing persons, and that the negative perceptions of self frequently were associated with beliefs that hearing persons perceive the deaf in terms of real or imaginary defects. As Sussman pointed out, it is very likely that the deaf respondents were answering the questions based on their own direct personal experiences. His findings, however, illustrate that the individual's interpretation of the social experience is critical because it represents the foundation upon which self-esteem is built.

Similarly, Schlesinger and Meadow (1972) and Kennedy (1973) suggested that some factors affecting deaf children's positive resolution of the crises marking Erikson's (1959) stages of development are:

1. negative parental reactions to the child's deafness;
2. excessive parental restraint of the child's activities;
3. difficulties in communication; and
4. estrangement from normally hearing peers and teachers.

If the feelings of others about aborted attempts at communication and interaction are negative and lead to frustration, this can create a spiral leading the deaf child to increasing isolation and inadequate social and self-esteem development.

Indeed, many personality assessments of deaf persons have found that they lag behind hearing people in social maturity and adjustment (Altshuler, 1962, 1963; Levine, 1956; Myklebust, 1960; Pintner, Fusfeld and Brunswig, 1937; Soloman, 1943). As Schlesinger and Meadow (1972) noted:

> Psychologically, the most frequently stated conclusion about deaf individuals is that they seem to reflect a high degree of 'emotional immaturity' (p. 2).

However, they do not feel this description is accurate because the deaf person may be reacting to a lack of effective communication and to other negative aspects of the environment. Levine (1960) noted that:

> Adequate development of a deaf individual may be inhibited not by deafness itself but by inadequate coping behaviors of significant others in the environment (pp. 51, 52).

In a later publication, Levine (1981) again emphasized the importance of the environment in the psychological development of deaf individuals. She maintains, to truly understand deaf individuls, it is first necessary to know and understand their shaping environments and to perceive how deficits in the environment manifest themselfes in the deaf individual.

Stokoe and Battison (1975) have also pointed out that behavior is directly related to a person's understanding of society's standards for behavior and that standards are communicated by that society's language. The deaf individual may be at a disadvantage, given the fact that he/she must decode the principles involving the behavior system without a similar language process (i.e., the aural–oral mode), and the deaf person may be regarded as *crazy*, egocentric, or immature because he/she does not respond as hearing people do in certain circumstances. However, as Moores (1978) notes, the deaf person's responses may be highly appropriate in such situations.

In summary, self–esteem may be viewed as a dimension of self–concept; it is the evaluation, either positive or negative, that an individual makes of himself during everyday activities. In the specific situation of deafness, parental and societal attitudes have been shown to exert a powerful influence on the positive development of self–esteem of deaf individuals.

Teachers' Attitudes Towards Students

Equally important as the variables already discussed are teachers' attitudes toward their students, for these attitudes can affect their perceptions and also their expectations of the student (Rosenthal & Rubin, 1971).

Historically, the school has long been considered the agency that can best provide an accurate description of the student's behavior (Bower, 1969; Hewett, 1968). The school provides professional teachers trained in child development and the teachers have direct contact over extended periods of time with students in a variety of situations. As Berkowitz and Rothman (1961) pointed out, skill, contact and sensitivity on the part of the observer is mandatory and should be characteristic of the classroom teacher.

Several controversial investigations have shown that students can be affected by the attitudes or expectations held by teachers (Rosenthal and Jacobson, 1968). In other words, one person's expectations of another's behavior may act like a "self–fulfilling prophecy". However, Thorndike (1968) questions if Rosenthal's and Jacobson's (1968) conclusions were adequately supported by the procedures and data analysis. In a review of the literature on teacher expectancies, Baker and Crist (1971) outlined the direct replication attempts and related studies conducted on the *Rosenthal Effect*. They found

that, of nine studies attempting to demonstrate teacher expectancy effects, none had succeeded. The authors do suggest, however, that teacher expectancies are deserving of study because they probably do affect, to some degree, judgements or ratings of pupil ability and probable success. They support the interpersonal interaction framework based on observable behaviors as suggested by Bowers (1973), Combs and Snygg (1959), Coopersmith (1959) and Pervin (1969).

Yamamoto (1972) also pointed out that self-esteem is not a concrete entity, therefore, an appraisal of it can be made "by observing the behavior that allows insight into the system determining that behavior" (p. 83). The assumption made is that every individual reveals his true self not only by what he does, but also by how he does it.

The above assumption, together with the assumptions that self esteem is conscious and can be inferred from behavior, is the basis for Battle's (1976) self-report questionnaire and teachers' behavior rating forms used in this study. Using his measurement scales, Battle compared the self-esteem of academically successful (regular class) and unsuccessful (special class) students and obtained a statistically significant Pearson correlation of .70 between self-esteem and perception of ability. He later (1977) examined the relationship between depression and self-esteem and found a total group correlation of .55 which was interpreted as suggesting that depression is associated with low self-esteem. In 1978, he found that academically successful students scored significantly higher than their non-successful peers on an Esteem Inventory. Battle also compared correlations between teachers' ratings of behavior and student-rated self-esteem. Correlations were significant for the total group (.36), which is consistent with the idea that his two scales were measuring similar traits.

C. Measuring Self-Esteem

Few studies on self-esteem have examined the direct relationship between self-esteem and specific instructional strategies to promote the affective growth of deaf students. One reason for this rests with the validity of the instruments used for measuring self-esteem and the difficulty of measuring psychological traits with precision. These problems are especially significant when assessing deaf students due to the lack of information concerning the adequacy or appropriateness of the instruments available. As

Garrison, Tesch and DeCaro (1978) indicated:

> Although experiences associated with deafness have been predicted by various theoretical perspectives to have negative effects on personality development in general and self-concept in particular, attempts to measure such effects have employed different tests and produced inconsistent findings (p. 968).

Blanton and Nunnally (1964), using a semantic differential technique, indicated that deaf adolescents perceived themselves more negatively than did hearing students. Similarly, Sussman (1973), reported that a group of deaf adults had a generally low level of self-regard. Craig (1965), however, indicated that deaf children rated themselves more positively than did hearing children in a sociometric study of self-concept and Brunschwig (1936), using a self-report inventory, found deaf students in a residential school to have a more positive self-image than did a group of normal hearing students because of a high *in-group cohesiveness* factor. In a more recent study, Gordon (1977) found that a group of eight male deaf apprentices in England had a complex and sophisticated view of people in their immediate orbit (family and friends) even though their competency in the English language was severely restricted, especially in the use of personal adjectives. He suggested that deaf teenagers can "...cope with and organize in a sophisticated fashion the few linguistic concepts at their disposal which refer to the personal qualities they see in people" (p. 255).

As Sullivan and Vernon (1979) noted, the impact of deafness on an individual cannot be measured in isolation. It must be done within the context of complex social variables in the deaf person's environment. "At the present time, the state of the psychological assessment art is inexact" (Sullivan and Vernon, p. 280). Yet, despite these problems with measurement and assessment, Wylie (1961, 1974) maintains that if self-report instruments are not used, then there is no way of knowing whether self-esteem exists, and subsequently, it cannot be measured. This position has been supported by Shavelson *et al* (1976) who comment that "Self-concept is restricted to a person's report of self" (p. 411). In discussing the evaluative character of self, Shavelson *et al* (1976) note that the individual develops a description of himself in a particular situation or class of situations and he also forms evaluations of himself in these situations.

> No one has the continuity of exposure and so continuous an opportunity to observe and evaluate his inner life and thought as the person himself (p. 11).

Rogers (1951) supported this view in his belief that an individual reports from one's "internal frame of reference" and this provides the most accurate point from which to understand individual behavior. Coombs and Snygg (1959) noted that although there may be some discrepancy between what an individual believes about his self worth and what he says in self-report, what the individual says will likely be significantly affected by what he is.

In addition, Kelly (1967) reported that human judgement is the most widely used assessment technique although the behavior of the human organism is influenced by many variables in addition to the one the test is designed to measure. He pointed out that "attention, motivation, state of health, fatigue, distraction and emotional status all affect test results" (p. 43). Thus, while the researcher can control some influencing variables, others remain beyond the control of science.

The assumption made in the use of self-report is that self-esteem is conscious and that the person reporting is willing and able to reveal himself in an honest manner. The key for deaf respondents in the above assumption is the word *able*. Investigations of personality variables in deaf populations are most difficult to interpret because many of the tests are designed specifically for hearing subjects. Consequently, they may possess both language and situational complexities lying outside the range of ability and experience of the deaf individual. This is because deafness entails not just sensory impairment but serious linguistic deprivation as well. As Moores (1978) noted:

> Typical deaf children, although of normal intelligence, find their range of experience constrained by communication limitations. They suffer, relative to other children, from a lack of opportunity to interact fully with and manipulate their environment in meaningful ways. Although deafness itself may have no effect on intellectual potential, the deafness will lead to impoverished communication skills that themselves may limit development severely, unless the children are provided compensatory tools (p. 3).

A number of factors are attributable to linguistic deprivation in deaf children, the most common being that the handicap causes severe impairment of the normal acquisition of receptive and expressive language skills. In addition to an impoverished vocabulary, most deaf children have syntactical and semantic deficiencies in the use of the English language in the expression and reception of thoughts, needs and feelings (Sullivan and Vernon, 1979). This view was discussed by Levine (1960) when she studied the differences in the semantic aspects of deaf children's language development as compared

to that of hearing children. According to Levine, the deaf child may tend to attribute very literal meanings to words, thus having difficulty in understanding their more abstract connotations. This view also received empirical support from Green and Shepherd (1975), who investigated semantic structure in thirty-three residential deaf students (ages nine to seventeen years), using a semantic differential technique. Their results showed that the deaf students had a more restrictive semantic system than has been found in normally hearing young people.

In an earlier study, Levine (1956) interpreted the results of a Rorschach assessment of deaf adolescent girls as showing constriction of personality when compared to a standardized population of normally hearing students. Levine suggested that these results could be "a manifestation of the overall language constriction with early, profound deafness" (p. 145).

Although Vegeley and Elliott (1968) concluded that the low scores of deaf children on a standardized personality inventory could not be explained as an artifact of the test, Rudner (1978) identified six linguistics structures which may bias test items against deaf respondents. These structures were noted in Chapter I. Recently, Garrison, Tesch and De Caro (1978) found that deaf students who scored higher on a test of reading comprehension obtained more positive scores on the Tennessee Self-Concept Scale (TSCS) than did students who were lower in reading ability. Subsequent interviews with thirty respondents revealed that many of the deaf students had interpreted test stimuli peculiarly, thus affecting their scores on the TSCS in a negative manner. The authors concluded that the low levels of self-esteem indicated by the scores on the TSCS reflected limited understanding of the test items in their written form.

Based on the above research, it is apparent that the diversity of findings obtained in assessments of self-esteem of deaf individuals may result in part from measurement error due to the language limitations manifested in deaf populations on paper and pencil tests. However, as Donaghue (1968) pointed out:

> Language is not an insurmountable barrier to a test...; it can be given in English, German, Urdue or the language of signs used by deaf persons. The only really important criterion, aside from the examiner's professional proficiency, is determination of whether the language employed is the one the client and the examiner can adequately use in discussing the percept seen. This is a most important consideration where the deaf are concerned. (p. 43).

Communicating the percepts of self-esteem questions to deaf individuals appears to the the central problem in assessment, while communication in general remains the central problem of deaf children (Freeman, Carbin and Boese, 1981; Greenberg, 1981; Gregory, 1976; Mindel and Vernon, 1971; Schlesinger and Meadow, 1972).

Communication is also the central issue in the theoretical considerations of self-esteem. The sources reviewed are in fairly general agreement on the origins of self in social interaction with others; and, as social interaction presupposes adequate transfer of emotions and ideas, the importance of communication is inherent in these theories (Cooley, 1902; Coopersmith, 1967; Maslow, 1954; Mead, 1934; Mischel, 1977; Rogers, 1951). Although allowing for the existence of some pre-language interaction, most of the literature supports Mead's (1934) social interaction theory discussed in *Mind, Self, and Society*:

> In our statement of the development of intelligence we have already suggested that the language process is essential for the development of the self. The self has character which is different from that of the physiological organism proper. The self is something which has a development; it is not initially there at birth but arises in the process of social experience and activity, that is, develops in the given individual as a result of his relating to that process as a whole and to other individuals within that process. (p. 135).

In this statement, Mead has made note of the viability of the self apart from that of the physiological aspects of an individual. He also noted that the process of growth is inherent in self development and that it grows as a result of the language process. That is, not until an individual can communicate with other persons through symbols which arouse in himself the responses they arouse in others can he gain a mental content of self. Or, as Schlesinger and Meadow (1972) note, "'the self' becomes an object to itself by means of the manipulation of symbols, that is, through the use of language" (p. 133).

Communication is a broader term than language and might be defined as any behavior that involves the sending and receiving of information between two organisms (Freeman, Carbin and Boese, 1981). For human beings the most important sub-category of communication is a language which is socially dependent on learning and modifiable by experience (Moores, 1978). As such, Myklebust (1960) argued that deafness imposes on experience by limiting interaction and linguistic feedback from the social environment, thus affecting the development of self. Similarly, Levine (1960) suggested that the linguistic limitations of the deaf child may be detrimental to both social interaction and self

development. Thus the basic deprivation of early profound deafness is not the deprivation of sound, but the deprivation of language. Deaf children cannot communicate clearly their needs, thoughts, and experiences, nor can their parents, teachers and friends communicate easily with them.

D. Communication Methods For Deaf Children

The efficacy of various communication methods of teaching language to deaf children has been a subject of controversy for over two hundred years (Bender, 1960; Schlesinger, 1969; Levine, 1969a). As Meadow (1980) noted, this controversy is an important part of the social and cultural context of the deaf child's development, because it influences all the developmental issues related to deafness. Wittgenstein's (1921) observation that the limits of one's language coincide with the limits of one's world has special meaning for deaf children and their parents.

Oral Language - English

As stated previously, the largest number of deaf children have hearing parents (over 90%, Schein and Delk, 1974) for whom the diagnosis of prelingual deafness presents significant psycho-social complications. Various studies have found that the major frustration reported by parents is communication. Gregory (1976) interviewed 108 English hearing mothers of deaf children and reported:

> Seventy-six percent of them gave answers indicating problems that arose from difficulties in communicating. When asked what they felt was the greatest problem from the child's point of view, 89 percent replied that it was communication. (p. 20).

Schlesinger and Meadow (1972) also found that the effects of communication limitations arising from a deaf child born to hearing parents has an early and profound impact on families and on parent-child communication. In a comparison study with mothers of young hearing children, they found hearing mothers of young deaf children to be more controlling, more intrusive, more didactic, less flexible, and less approving or encouraging (Erting, 1980). Collins (1969) reported that forty percent of the behavior of hearing mothers of preschool deaf children was *directing*. Furthermore, thirteen of sixteen mothers could communicate with their deaf child only about things or events that were present in time and/or space.

Most deaf children in this group have their initial exposure to language through spoken English. Indeed, as Meadow (1980) has pointed out, "most parents and educators have been committed to the *oral-only* approach to language acquisition for deaf children" (p. 26). This approach stresses an oral environment with the elimination of any meaningful gestures from the child's linguistic input during the optimal period of language development (DiCarlo, 1964). The reason meaningful gestures are not allowed is because it is felt that the child who is permitted to use an *easier* gesture communication system will not work to acquire the more difficult oral skills of lipreading and speech. Parents are often recruited as teachers of the young child and this can place a great deal of strain on beneficial parent-child interactions. As Meadow (1967) noted:

> The press from educators who begin to work with deaf children and their parents very early leads to over-expectations for verbal achievement and over-emphasis on the training that may not lead to verbal competence. This encourages in some matters a didactic, intrusive, over-anxious surveillance of the deaf child's oral progress, with accompanying reduction in the relaxed, playful, creative, happy interaction that may be necessary for normal growth and development (p. 432).

Of the frequent studies of various aspects of language development and deficiencies of deaf children, many were based on unsystematic observation and anecdotal material related to children whose early linguistic input was largely unintelligible and sometimes meaningless (Meadow, 1980). The apparent unanimous consensus of this literature was that the deaf child exposed only to the spoken English environment is extremely impoverished. Schlesinger and Meadow (1972) studied language data from forty deaf and twenty hearing preschoolers and found that seventy-five percent of the deaf children had a language age of twenty-eight months or less, although their mean age was forty-four months. A national survey conducted by the Office of Demographic Studies (1972) indicated that the mean grade equivalent scores for Paragraph Meaning on the Stanford Achievement Test for deaf students was 1.90 at age eight years and 4.02 at age seventeen years (Moores, 1978). Thus, it appears that the linguistic gap of deaf children in English increases with age compared to the hearing child. Because the auditory channel is precluded, deaf children cannot approach communication in the same way as hearing children. Instead, they must try to filter meaning from English messages through inadequately developed auditory, phonological and grammatical systems. The result is usually a distortion of the original message. Similarly, the child's own verbal messages are

usually distorted and frequently misunderstood, leading to inappropriate reactions and nonselective reinforcement from others. Inconsistent responses to the child's speech often produces bewilderment and may actually inhibit future efforts to produce spoken language (Meadow, 1980). As DeCarlo (1964) pointed out, it is not surprising that the child's vocabulary and language are deficient, given that the deaf child's opportunity to generalize from the aural-oral environment is limited, linguistic discrimination is poor, and primary and secondary reinforcement for language is often lacking.

Thus, for deaf children of hearing parents, early unplanned exposure to people talking provides little or nothing in the way of language development. At the age of two or three years, when hearing children are ready to concentrate on developing meaning and content in their language, the deaf child is not ready to ask questions or find out too much of what is happening around him (Freeman, Carbin, and Boese, 1981). This does not mean, however, that deaf children communicate nothing. It is well known that deaf babies and their parents develop simple *family* sign systems to communicate with each other even though the emphasis is on spoken communication (Goldin-Meadow and Feldman, 1975).

Because of the adverse conditions in which most deaf children acquire a first language, the question of what constitues a second language for them is not yet clear.

Charrow and Fletcher (1974) studied the acquisition of English as a second language with thirteen deaf students of deaf parents matched for I.Q. and hearing loss with thirteen deaf students of hearing parents. The Test of English as a Foreign Language (TOEFL) was administered to all the students. The authors found significant differences favoring the students with deaf parents on three of the four subtests and for the total scores, and concluded that the students with deaf parents were learning English as a second language at school. However, it is unclear from the data whether the subjects with hearing parents were learning English as a first or second language, and it is therefore difficult to evaluate the results precisely. Despite the fact that these children receive little or no signed linguistic input from their parents, most deaf children know some type of sign system by the time they are eleven years of age, even in purely oral schools (Kohl, 1966; Lenneberg, 1967; Moores, Weiss, and Goodwin, 1974; Stafford, 1967).

Overview of Manual Communication

Most public supported schools for the deaf in Canada now use some form of manual communication to supplement the aural-oral approach in classroom instruction (American Annals of the Deaf, 1981). Also, some training courses now require deaf educators to be receptively fluent in ASL and/or Manually Coded English (MCE) systems. During the late 1960's and early 1970's, there was a proliferation of codes due to the heavy emphasis the schools placed on *language development* by which was meant the development of English competency.

The attitude supporting a monolingual approach is partly due to the research showing conclusively that deaf students are language deficient or linguistically impoverished when compared to their hearing peers on tests of English language ability (Moores, 1970; Myklebust, 1960 Simmons, 1962). Research to this date however, has not indicated whether deaf students are deficient or impoverished on tests of American Sign Language ability.

Research by Bonvillian and Charrow (1972), Mindel and Vernon (1971) and Vernon (1967, 1968) has shown that the distribution of intelligence is similar for deaf and hearing populations, therefore the English language deficit cannot be ascribed to a cognitive deficit. Other studies (Stuckless and Birch, 1966; Meadow, 1966; Vernon and Koh, 1970; Brasel and Quigley, 1975) have demonstrated that deaf children of deaf parents score higher in overall academic achievement and language ability than do deaf children of hearing parents and are also better socially adjusted.

Results such as those just described are difficult to interpret unless it is remembered that the method of instruction in the schools studied is MCE while the language of conversation in a deaf family's home is more likely ASL. However, most deaf people can be called bilingual in that they can switch from ASL to MCE or use a variation of both languages, called Pidgin Sign English (see Figure II.1) for purposes of interaction and communication with the hearing community (Baker and Cokely, 1980). This *bilingualism*, as such, occurs frequently in schools for the deaf using MCE systems in the attempt to improve the language and reading ability of students.

American Sign Language

Only in the past twenty years have researchers focussed on the language acquisition and achievement of deaf children of deaf parents. Usually, these children have autosomal dominant deafness and the deafness is inherited each generation (Freeman, Carbin and Boese, 1981). Usually the parents use American Sign Language as their preferred means of communication in the home and in their social interaction with the deaf community.

American Sign Language (ASL) is a visual–gestural language that has a set of rule–governed behaviors which are called signs and which represent concepts. The units of ASL closely approximate words in English but are composed of specific movements, location, position of contact, and shapes of the hands and arms, eyes, face, head and body posture. These movements, shapes and variations in speed and direction of signing transmit the semantic subtlety of sequence, inflection, intonation, and pauses of the language (Baker and Cokely, 1980; Grove and Rodda, 1981). According to Bellugi (1980):

> ...many new concepts are expressed by changes in the movement of commonly known signs. These derivational processes, in which signs adopt new and extended meanings, are typical ways of enlarging the vocabulary of A.S.L. (p. 70).

Research, mainly by Stokoe (1960, 1965), has confirmed that ASL is a rich language with visual features comparable to features of spoken languages expressed in the auditory mode. As Baker and Cokely (1980) note:

> A language is a system of relatively arbitrary symbols and grammatical signals that change across time and that members of a community share and use for several purposes: to interact with each other, to communicate their ideas, emotions, and intentions, and to transmit their culture from generation to generation. (p. 44).

The roots of American Sign Language have been traced back to a variant of French Sign Language but the language has undergone many modifications since it was introduced by Laurent Clerc in 1817. Also, contrary to some beliefs, there is no universal sign language. As in any language, there are regional dialects and idiosyncratic subsystems. However, for purposes of convenience, this study will refer to American Sign Language as including those systems in use throughout the United States and Western Canada which have a high degree of mutual intelligibility.

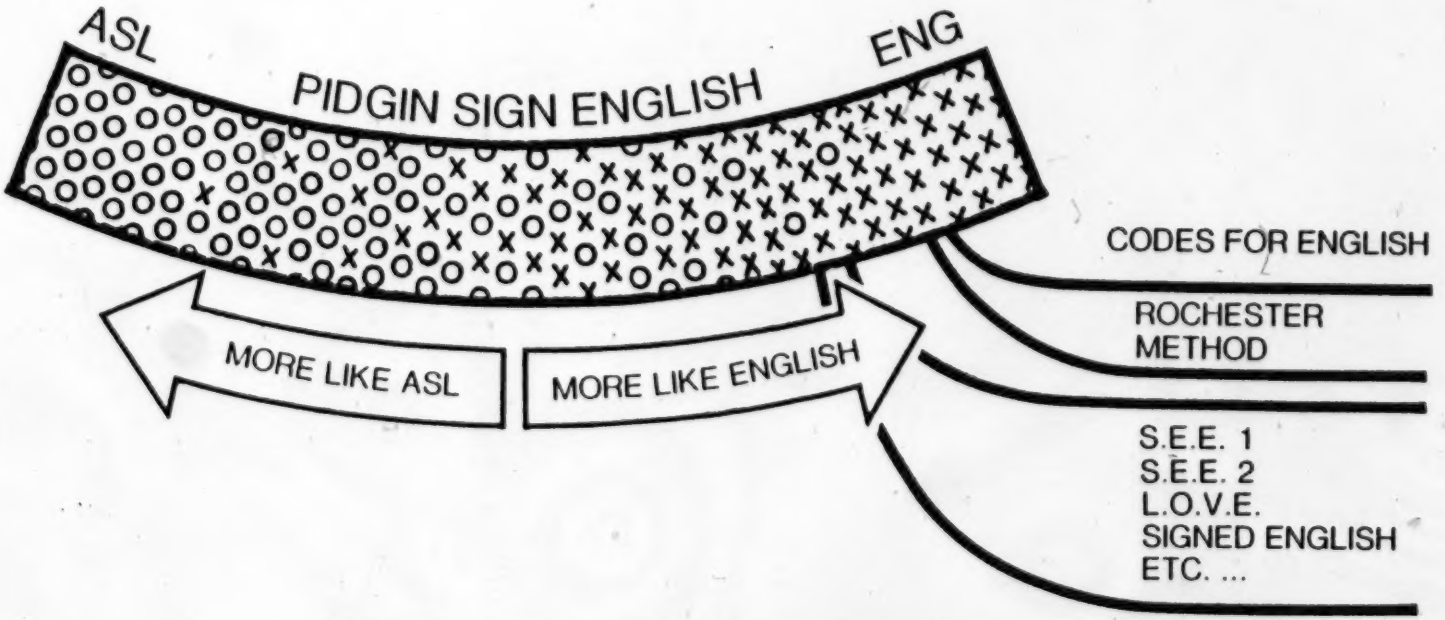

Figure 11.1

Manual codes for English on the ASL-English continuum

Source: Baker, C., and Cokely, D. American Sign Language: A Teacher's Resource Text on Grammar and Culture, Silver Spring, Maryland: T.F. Publishers, Inc:, 1980.

Manually Coded English

Some of the better known attempts to use signs for coding English are *Seeing Essential English* or S.E.E.1 (Anthony, 1974) *Signing Exact English* or S.E.E.2 (Gustason, Pfetzing and Zawalkow, 1972) and *Linguistics of Visual English* or L.O.V.E. (Wampler, 1972, in Cokely & Gawlik, 1973, and Charrow, 1976). In addition, there is the Rochester Method or Visible English where every word is fingerspelled, letter by letter, using a manual alphabet with a one-to-one correspondence with traditional orthography, and Signed English, which follows English word order with a mixture of signs and fingerspelling.

These manual codes for English attempt to model the vocabulary and structure of English sentences for the purpose of teaching English to deaf students. However, these codes are visual-gestural in nature and English is aural-oral, hence, some linguists have said that these codes do not and cannot adequately and completely represent English (Cokely and Gawlik, 1973; Charrow, 1976; Markowicz, 1974, 1977-1978; Stokoe, 1975; Woodward, 1973).

Manually Coded English systems are also very different from ASL signs in that

1. they borrow only a small portion of the actual signs in ASL and invent other signs;
2. they often alter the form of ASL signs by changing the handshape and using a highly restricted type of movement, often lacking in facial expression;
3. they often assign grammatical roles to the signs which are different from the way they are used in ASL (e.g., noun *versus* verb);
4. they often give the signs meanings which are very different from the meanings they have in ASL; and
5. they use the signs in English word order, rather than the order in which signs occur in ASL sentences (Baker and Cokely, 1980, p. 70).

Hence the possibility exists that MCE systems are very confusing to a deaf child if his first language is not English. If so, it follows that the use of ASL as the language of communication would enhance social adjustment and acquisition of English language skills in such children.

In the area of programmatic intervention and enhancement of self-esteem, Kohl (1966), Meadow (1969) and Sotomeyer (1977) have suggested that the recognition and

use of the native language of the minority group may foster the development of self-identity and self-confidence in school settings. The recognition and use of a person's language contributes to one's cultural identity and cultural identity contributes to one's self-esteem. As Kannapell pointed out:

> I believe my language is me. To reject a language is to reject the person herself or himself....Once I learned that ASL is my native language, I developed a strong sense of identity as a deaf person and a more positive self-image (p. 111-112).

E. Integration

The concept of self theory, and its evaluational component of self-esteem, can be traced back to the establishment of psychology as a separate entity from philosophy in the 1800's. Since that time, its development has been greatly influenced by the thinking of psychoanalyst, cognitivist, and humanist theories.

Self-concept, in general, constitutes a person's beliefs, ideas, and perceptions about oneself which are private and unique to each individual (Mitchell, 1974). It is, according to Jung (1958) what man's consciousness knows of himself or, according to Helper (1955), it is the referent of the pronoun *I*.

Self-esteem is a dimension of self-concept which develops through social interaction with others; it refers to the evaluative perception an individual makes and maintains of his or her own worth. Past research suggests that specific observed behavioral characteristics are indicative of positive or negative self-esteem. The behaviors observed, along with individual self-reports, can possibly give an accurate description of the self-esteem of the individual. Attitudes, communication, and coping behaviors of significant others has also been shown to have a significant effect on behavior in terms of circular interaction theory. Individuals imitate, identify with and generally appear to behave in a more positive manner in the presence of people they like and can communicate with freely; the opposite seems to be true for those they dislike or fear. Thus, there is a complex interrelationship between the behavior and self-esteem of the individual and the attitudes, expectations and observations of significant others.

In the area of measurement and assessment of self-esteem, how does the mode of communication used in administering the questionnaires affect the self-esteem scores of deaf students? Given the discrepencies of test results and the lack of language

specificity in the research, it must be acknowledged that the need exists to uncover strategies that may strengthen the deaf child's emotional development (Schein, 1980). The assumption has been that these students have a lower self-concept than hearing students due to a lack of communication ability with the use of the English language in its spoken or written form. The alternatives to be considered are as follows:

1. Does a relationship exist between different types of communication used in test administration and the self-esteem scores of deaf adolescents?
2. Does the hearing handicap of these students impinge upon their behavior, causing them to behave differently so that teachers infer lower self-esteem?
3. Do teachers rate students as students rate themselves?
4. How does the deaf student view himself in the entire situation?

Understanding the whole child involves understanding the reasons for his or her behavior. This is not possible unless their own feelings, attitudes and values are revealed. Thus, an investigation of the relationship between self-esteem, attitudes, and behavior of deaf students should expand our understanding of the consequences of deafness.

Acting upon this premise, the following research questions were developed.

Question 1

Do mean self-esteem scores of three groups of deaf adolescents differ significantly when three different methods of communication are used in administering the questionnaires? Studies of deaf students with deaf parents have shown that students using manual communication from a very early age achieve higher academic standing and are more socially adjusted than are students with hearing parents (Meadow, 1966; Stevenson, 1964). However, it has not been established whether the use of ASL in particular has a significant effect on self-esteem or if the use of any manual communication system is just as effective. Grove and Rodda (1981) found reading to be the most efficient receptive method compared to oral, manual or total methods used in a Test of Communication Skills. Garrison, Tesch and DeCaro (1978) also reported that reading ability was the most significant factor influencing self-esteem scores. Also, the group of students who met the criteria for this investigation all had hearing parents. Does the method of communication used with them influence their self-esteem scores to a

significant extent?

Question 2

Does a relationship exist (either positive or negative) between deaf students' self-rated self-esteem as measured by the *Canadian Self-esteem Inventory for Children* (Battle, 1976) and ratings made by their teachers as measured by the *Teachers' Behavior Rating Form* (Battle, 1976)? Battle compared teachers' ratings and students' self-reports using these instruments with regular class students aged from nine to twelve years and found a low positive correlation (.36) for the total group. These instruments however, have not been used with deaf students. Paterson (1980), using these instruments with educable mentally handicapped students found a higher positive correlation (.52 1) than did Battle.

III. METHODOLOGY: THE RESEARCH DESIGN

This chapter defines the study with the instruments and sample used. Procedures for collection and analysis of data are described and the assumptions and limitations of the study are stated.

A. Description Of The Instruments

The Canadian Self-esteem Inventory for Children

Battle's (1976) Inventory was designed from items in Coopersmith's (1967) *Self-esteem Inventory*, Gough's (1965) *Adjective Checklist*, and some items were developed by himself. The self-report form consists of fifty items intended to measure a student's subjective perception of self in four areas: self, peers, parents, and school, which together give a measure of general self-esteem. The items are self-descriptive statements such as "I am happy most of the time", and there are two response alternatives for each item: "Yes" or "No". The self-esteem score is the total number of items checked which indicate high esteem.

Battle (1976) reported a total score test-retest reliability correlation coefficient of 0.84 over a forty-eight hour period with a sample of 198 students enrolled in Grades 3 through 6 in the public schools. Factor analysis done by Battle indicated that the items in the scale possessed acceptable internal consistency.

Battle (1976) also attempted to build content validity into the scale by: (a) developing a construct definition of self-esteem as "that which is measured by the *Canadian Self-esteem Inventory* and refers to the perception one has of his own worth", and (b) by writing items intended to cover all areas of the construct (p. 16).

Battle also did a comparative study of his inventory and Coopersmith's (1967) inventory and found significant correlations between the two instruments for all grade levels ($r = 0.71$ to 0.80) for the total sample.

On the basis of the above, it was assumed that the total test scores of the *Canadian Self-esteem Inventory for Children* possess sufficient reliability and validity.

Teacher Behavior Rating Form

The *Teacher Behavior Rating Form* is a ten-item form designed by Battle (1976) intended to measure student behaviors associated with sucess, assurance, self-confidence and reactions to criticisms and failures. Response alternatives are rated on a five-point scale from:

always - 1

usually -2

sometimes - 3

seldom - 4

never - 5

To minimize response biases, the *always* to *never* continuum is reversed on some items and *always* is equal to 5 and *never* is equal to 1. The maximum score for each of the ten items is 5. The form is completed by a teacher for each student in the sample.

Battle (1976) established validity for the Rating Form by comparing students' self-reports and teachers' evaluations with a sample of forty-six students in grades 4 through 6. He found significant correlations ($p < .05$) between teachers' evaluations and students' self-reports ($r = .36$) for total sample and for males ($r = .39$) but not for females. Correlations between teachers' ratings and academic-school self-esteem[4] for the total sample was not significant ($r = .11$).

Battle (1976) did not attempt to establish reliability for this instrument. This limitation must be taken into account when considering the results.

B. Description Of The Sample

Permission was obtained from the parent(s) or guardian(s) of twenty-seven students selected from the student population at the Alberta School for the Deaf who met the following criteria.

1. The students were prelingually deaf with a better ear average hearing threshold level greater than 76 dB unaided, but were free from other complicating handicaps according to school records. All students had hearing parents or guardians.

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[4]Academic-school self-esteem refers to the students own perception of academic ability, a more molecular inferred variable than global measures of self-esteem. Battle (1981) notes that his findings are consistent with those reported by Piers and Harris (1969) and Coopersmith (1967).

2. The students had achieved a reading comprehension score of 3.2 or higher on the latest administration of the *Stanford Achievement Test for The Hearing Impaired*. A Spache and Fog formulae readability calculation done for this investigation indicated the average reading level of the Battle (1976) inventory to be between the grade levels of 2.2 to 2.9 (see Appendix A).
3. The students had passed a communication measure designed to assess receptive comprehension skills in ASL. The measure was designed and administered by a native ASL communication specialist at the Alberta School for the Deaf (see Appendix B).

Equal numbers of subjects were assigned by the researcher to three groups matched for age, sex, day or resident status, and Stanford Achievement Reading Comprehension scores (see Table III.1). An attempt was made in the group assignment to balance the groups because of the small number of students able to meet the above criteria. No randomization was undertaken. A preliminary t-test between high and low group (Group 2 and 3) reading comprehension scores indicated no significant differences in group reading means ($t=.293$; df 16; $p > .05$). The t-test confirmed that the groups were approximately balanced on reading comprehension scores.

C. Testers

Three qualified teachers with a total of forty-two years of teaching experience in deaf education administered the questionnaire. The teacher who administered the inventory in ASL is a native user of the language. Her parents, maternal grandparents, two sets of aunts and uncles, and two sisters are all prelingually deaf. The other two teachers who administered the inventory in MCE and Reading have normal hearing. The teacher using MCE has used the many variations of these systems since the introduction of the Rochester method at the Alberta School for the Deaf in 1961.

D. Procedure For Data Collection

Permission was obtained from the Superintendent of the Alberta School for the Deaf to carry out this study. Permission was then obtained from the parent(s) or guardian(s) of the students selected for inclusion.

TABLE III.1
THE THREE GROUPS MATCHED ACCORDING TO:
AGE, DAY/RESIDENT STATUS, SEX AND READING COMPREHENSION

SUBJ.	AGE	DAY OR RESIDENTIAL	SEX	SATS READ. COMP.
Group 1				
A	13	Day	M	4.6
B	14	Resid.	M	3.2
C	15	Day	M	3.9
D	16	Day	F	4.5
E	17	Day	M	8.6
F	17	Resid.	F	5.3
G	17	Resid.	F	5.4
H	17	Day	F	7.1
I	17	Day	F	4.8
MEAN X	15.88			5.27
Group 2				
J	13	Day	F	4.6
K	14	Day	F	11.2
L	15	Resid.	M	4.0
M	16	Day	M	5.3
N	16	Resid.	M	3.8
O	17	Day	M	4.1
P	17	Resid.	F	7.1
Q	17	Resid.	F	3.2
R	17	Day	F	6.5
MEAN X	15.77			5.53
Group3				
S	14	Resid.	F	3.5
T	16	Day	F	5.1
U	15	Day	M	3.7
V	16	Day	M	7.1
W	16	Resid.	M	3.5
X	17	Day	M	8.2
Y	17	Resid.	F	3.5
Z	17	Day	F	6.8
AA	17	Day	F	5.7
MEAN X	16.11			5.23

Data collection began with administration of Battle's (1976) *Canadian Self-esteem Inventory for Children* to the three groups separately using three different methods of communication. Each teacher explained the aims of the investigation and stressed that it was not a *test*, that either a "Yes" or "No" response could be correct for each question, and that the results per individual would remain confidential. Five easy practice items were given to each group before the inventory began so that the students would understand that each item described how he or she usually feels. All three groups were administered the inventory three times over a period of six weeks using Reading, American Sign Language, and Manually Coded English on the different occasions (see Table III.2) using a Latin square design (Winer, 1971, p. 713).

Group 1 received the first administration of the inventory in reading form. The practice exercises were written on the chalkboard and the tester conducted all communication with the students in written or oral form only.

Group 2 received the first administration of the inventory in American Sign Language. The practice exercises and all communication between tester and students was carried out with ASL, without voice or written form.

Group 3 received the first administration of the inventory in Manually Coded English. The tester gave the practice exercises and answered all questions using speech, signs, and fingerspelling in English word order according to Manually Coded English systems.

In the second administration of the inventory, Group 1 was administered the inventory by the tester using ASL, Group 2 by the tester using MCE, and Group 3 by the tester using Reading. In the third administration, Group 1 received the inventory using MCE, Group 2 used Reading and Group 3 used ASL. Due to inclement weather and school activities, four weeks elapsed between the first and second administration of the inventory. One week elapsed between the second and third administration. The test design (Table III.2) tried to counterbalance an order of testing effect with a minimum of seven days elapsing between tests. Also, during this period, the testers were asked to rate one group of students each on the *Teacher Behavior Rating Form*. All data were collected and scored by the author.

TABLE III.2
TEST DESIGN ADMINISTRATION SCHEDULE

GROUP	ADMINISTRATION		
	a1	a2	a3
G1	3R	1A	2M
G2	1A	2M	3R
G3	2M	3R	1A

1: American Sign Language(A)
2: Manually Coded English (M)
3: Reading (R)

E. Assumptions

The following assumptions were considered relevant in regard to this investigation.

1. The mode of communication used with deaf students, while controversial, should be systematically explored in the area of self-esteem development.
2. The teachers involved as testers, on the basis of their training, cultural background, communication ability, and experience with deaf students, were able to administer the inventory as specified for each group and were able to infer psychological meaning from the behavior of the students they rated.
3. The students were capable of understanding and reporting their life experiences, were willing to co-operate, and did not knowingly or unknowingly conceal their feelings.
4. The *Canadian Self-esteem Inventory for Children* and the *Teacher Behavior Rating Form* provide adequate validity for measuring self-esteem and overt behaviors in deaf students.

IV. DATA ANALYSIS AND RESULTS

Question 1 was tested with a Latin square design, where groups were assigned to treatment, time combinations. The results are shown in Table IV.1 The means increased with successive administrations of the test as shown in Table IV.2. There were no significant differences among treatment conditions. The means shown in Table IV.3 indicate that the Reading condition was slightly lower than the other two conditions (37.44 for Reading versus 38.81 and 38.15 for ASL and MCE respectively). Although the testing procedure was designed to counterbalance an order of testing effect, this effect was still significant in test results.

Question 2 was examined using the Pearson product moment correlation coefficient. Since there was a possibility that group and time differences could confound the relationships, it was decided to calculate correlations separately for each group, and pool the results. The pooling process involved calculating the correlation for each group, converting their value to Fisher's Zr, averaging the results, then converting the averaged Zr back to a correlation. The within group correlations and pooled values are shown in Table IV.4. They indicate no statistically significant relationship between student's self-rated self-esteem and teachers' ratings of students. However, a positive and statistically significant relationship is indicated between all pairs of the three methods of communication ($r = .74$ to $.80$, $p < .05$) in the pooled values.

It is of interest to note that the results of this study are inconsistent with Battle's (1976) results on student-rated self-esteem and teacher ratings. He obtained a significant correlation of .36 for his total sample, and Paterson (1980), using Battle's inventory and rating sheet, obtained a correlation of .52 with educable mentally retarded students. Battle (1981) states that:

> findings indicate that the relationship between teachers' behavioral evaluations and students' self-report is significant for combined sexes and males, but not for females. (p. 16)

The present study contained one more female than male in each group (Table III.1) and this may have resulted in the lower correlations (Table IV.4)

A posteriori examination of the correlational data was conducted using Alpha Factoring Analysis[5]

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[5]Rummel (1970) states that factor analysis can be applied to the data of any matrix "...even to nominally scaled data of a yes-no, or presence-absence type, the lowest and least

TABLE IV.1
ANALYSIS OF VARIANCE SUMMARY TABLE

EFFECT	SS	df	MS	F	P	
Between Subjects	2528.19	26				
Group Effects	333.14	2	166.57	1.821	0.183	n.s.
Subjects Within Groups	2195.00	24	91.46			
Within Subjects	751.36	54				
Time Effects	196.28	2	98.14	9.033	0.001	<0.01
Treatment	25.36	2	12.68	1.160	n.s.	
Time X Treatment	8.31	2	4.15	0.380	n.s.	
Error	521.50	48	10.87			

TABLE IV.2

TUKEY TEST ON TIME FACTOR

GROUP	n=9		9		9		SD
	Time 1		Time 2		Time 3		
1.	33.33	R	35.22	A	38.22	M	5.60
2.	40.44	A	39.22	M	42.00	R	7.72
3.	37.00	M	37.00	R	40.78	A	3.94
Grand Means X	36.92		37.15		40.33		
Total Grand Mean = 38.13							

T2 - T1 = .23

T3 - T2 = 3.18

T3 - T1 = 3.41

Qk = 1.89; df 3,48

TABLE IV.3

TREATMENT MEANS

TREATMENT	GROUP 1	GROUP 2	GROUP 3	X
READING	33.33	42.00	37.00	R = 37.44
ASL	35.22	40.44	40.79	A = 38.81
MCE	38.22	39.22	37.00	M = 38.15
Grand Means X	35.59	40.55	38.26	

Total Grand Mean = 38.13

A - R = 1.37

M - R = .70

A - M = .67

Qk = 1.89; df 3,48

TABLE IV.4

RELATIONSHIPS BETWEEN TEACHER RATINGS OF SELF-ESTEEM (T.R.) AND THE CANADIAN SELF-ESTEEM INVENTORY AS ADMINISTERED UNDER 3 CONDITIONS: READING, AMERICAN SIGN LANGUAGE (ASL), AND MANUALLY CODED ENGLISH (MCE)

CORRELATIONS		READING	ASL	MCE	T.R.
Group 1					
	READING	1.00			
	ASL	.66	1.00		
	MCE	.77	.89	1.00	
	T.R.	.29	.20	.08	1.00
Group 2					
	READING	1.00			
	ASL	.90	1.00		
	MCE	.81	.72	1.00	
	T.R.	.58	.65	.69	1.00
Group 3					
	READING	1.00			
	ASL	.57	1.00		
	MCE	.60	.74	1.00	
	T.R.	-.15	-.52	-.10	1.00
Pooled Values					
	READING	1.00			
	ASL	.75	1.00		
	MCE	.74	.80	1.00	
	T.R.	.27	.14	.27	1.00

Pooled values, df = 27 - 3(2) = 21;

Alpha .05 criterion value is .41.

and Varimax Rotation. Factor analysis was used for its data reduction capability. Given an array of unpooled correlation coefficients for a set of variables, factor-analytic techniques enable the investigator to see whether some underlying pattern of relationships exists such that the data may be "rearranged" to a smaller set of factors. These factors may be taken as source variables accounting for the observed interrelations in the data. Alpha factoring defines and retains those factors from a sample of variables that have a positive generalizability to other variables in the universe (Nie, Hull, Jenkins, Steinbrenner, Bent, 1975). Alpha factoring involves a psychometric inference, not a statistical inference in the usual sense because it is assumed that the variables are observed over a given population of individuals. Varimax rotation simplifies the factor structure and gives a meaningful patterning of variables by maximizing the variance in the columns of the factor matrix obtained.

Three factors were selected based on Kaiser and Caffrey's (1965) criterion, i.e., factors are estimated on the criterion that they will have a maximum correlation with their corresponding factors in the universe (see Table IV.6). The high loadings on Reading, ASL, and MCE in Factor 1 (accounting for 31.86 percent of the variance) confirms that the three formats measure consistently.

Factor 2 loadings indicate a relationship between teacher ratings and reading comprehension scores of students. Table IV.5 shows the relationship structure of the descriptive variables more clearly than Table IV.6. A r value of .30 (df 26) was used as the criterion for Table IV.5.

Factor 3 loadings are composed of age, sex, and reading comprehension scores but age and sex do not reach the criterion value for Table IV.5. As might be expected, reading comprehension scores have some correlation with age -- the older students had higher reading scores. A check of the raw data in Table III.1 confirms this result.

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[5](cont'd)demanding rung on the measurement ladder" (p. 17).

TABLE IV.5

A POSTERIORI ANALYSIS OF SELF-ESTEEM AND DESCRIPTIVE VARIABLES (UNPOOLED CORRELATIONS WITH .30 CUTOFF)

	MCE	ASL	READING	T.R.	READING COMP.	DAY / RESIDENT
MCE	1.00	.77	.82			
ASL	.77	1.00	.68	.31		
READING	.82	.68	1.00	.32	.30	
T.R.		.31	.32	1.00	.42	
READ. COMP.			.30	.42	1.00	-.44
DAY/RESID.					-.44	1.00

TABLE IV.6
VARIMAX ROTATED FACTOR MATRIX

VARIABLE	FACTOR 1	FACTOR 2	FACTOR 3
Reading	.842	.317	.028
ASL	.763	.231	-.107
MCE	.961	.036	.03
Teacher Ratings	.141	.546	-.074
Age	-.144	.066	.420
Sex	.148	-.100	.629
Reading Comprehension	.113	.842	.343
Day/Resident	-.114	-.488	.082
Variance	2.549	0.962	0.924
Percent of Total Variance	31.862	12.020	11.546
Percent of Common Variance	57.484	21.686	20.830

Sum of Commonalities = 4.434
Total Variance Accounted for = 55.428%

V. DISCUSSION AND IMPLICATIONS

A. Summary Of The Study

The major purpose of this study was to investigate whether the self-esteem scores of prelingual hearing-impaired students attending a provincial school for the deaf were dependent upon a mode of administering the questionnaires. In order to do this, the twenty-seven students who met the selection criteria were divided into three groups and administered the self-esteem questionnaires by three teachers using three methods of communication. The testing occurred over a period of six weeks. Although the testing procedure (see Table III.2) was designed to counterbalance an order of testing effect, the order of testing was significant in a two-way analysis of variance. Differences between methods of administration did not achieve significance.

Order of testing effect was most evident in Group 1 (see Table IV.2) as the means show significant increments. Group 2 and 3 did not indicate an order of testing effect until the final administration of the questionnaire. Group 2 consistently scored the highest means throughout the three administrations, possibly because one female student in the group had a high reading comprehension score (see Table III.1). Garrison, Tesch, and De Caro (1978) also found that students with higher reading comprehension scores scored higher on the *Tennessee Self-Concept Scale*. In addition, the high pooled correlations between the three methods of communication shown in Table IV.4 indicate that if a student has good comprehension with one form of communication the translation into other forms of communication should not be that difficult. Battle (1981) suggests that a group mean of 37.43 (SD 6.74) for Junior High students on his Self-esteem Inventory indicates positive self-esteem. Thus, the key to positive self-esteem with hearing-impaired students appears to be communication ability in any form.

A second major purpose of this study was to examine the relationship between teacher ratings of students and students' self-ratings. The results of the statistical analysis indicate a low positive correlation ($r = .235$), which failed to achieve significance (alpha .05 criterion value is .413). In his testing of *normal* hearing students, in grades four and six, Battle (1976) obtained a significant correlation coefficient of $r = .36$ ($df\ 44$; $p < .05$). Four possible explanations are suggested for this difference.

1. Since hearing impaired students have linguistic communication difficulties, there may be degrees of estrangement between hearing teachers and hearing-impaired students, as suggested by Schlesinger and Meadow (1972). Students may be hesitant in expressing themselves to teachers if they feel that they may be misunderstood. Also, teenagers are learning to behave more like adults and perhaps do not fully reveal their personal feelings. As many researchers have noted (Freeman, Carbin and Boese, 1980; Gregory, 1976; Moores, 1978; Schlesinger and Meadow, 1972), communication remains the central problem for deaf children and it is also the central issue in the theoretical considerations of self-esteem (Cooley, 1902; Coopersmith, 1967; Mead, 1934; Rogers, 1951). Thus, a low correlation coefficient may be an indication of the interrelated communication problems associated with deafness.

2. All the students tested were in rotational classes in the Intermediate and Senior Academic Departments of the school. This means that the teachers were in association with different groups of students for forty minutes per day while teaching academic subjects during that time. It is possible that time and academic subject matter constraints did not allow the teachers to become fully acquainted with each student, thus giving a low correlation with self-esteem. Battle's (1976) subjects in the correlational study took most of their subjects from the homeroom teacher, thus permitting the teacher and students longer periods of time to become better acquainted.

3. Teacher ratings may vary according to their competency in ASL and the subject matter they teach the students. For example, while one teacher may rate the students on academic ability in English, another teacher more fluent in ASL may rate the students on overall self-esteem because of the identity match in terms of the handicap. These variables may have increased the inter-rater variability of this study and may explain some of the results of the data.

4. Battle (1976) did not establish test-retest reliability for the Teacher Behavior Rating Form. This must be taken into account when evaluating the results of this study.

B. Mean Self-esteem Of Hearing-Impaired Students

In the absence of general guidelines, the grand means of Table IV.2 were average over all three occasions to produce a total grand mean of 38.13 with an averaged standard deviation of 5.75. Battle (1981), using the same instrument with a sample of 117 Junior High students, obtained a total sample mean of 37.43 with a standard deviation of 6.74. Using a test for significance of difference between variances for independent samples (Ferguson, 1976, p. 177-180) a F ratio of 1.37 (df 116, 26; $p > .10$) was obtained. The grand mean of the hearing impaired group does not differ significantly from the mean of hearing Junior High students. Thus the performance of the students in this study does not support Blanton and Nunnally's (1964) hypothesis that deaf adolescents perceive themselves more negatively than do hearing students. This study is in agreement with Craig's (1965) findings that the deaf residential group rated themselves significantly higher in self-acceptance than did the integrated groups. Craig (1965) attributed the high self-acceptance scores to the high in-group cohesiveness among students in residential schools. Craig's (1965) findings are consistent with Festinger's (1954) social-comparison theory and with Strang, Smith and Rogers (1978) who found that self-concepts of academically handicapped children tended to be higher when other children with learning problems were the main reference group, and to decline when self-comparisons were restricted to regular class children. Indeed, self-esteem ratings may possibly be determined by the situational context of the segregated or integrated group placement.

Although this study contained more day subjects than residential, all subjects attended the same school where peer group influences and school culture appear to give positive self-reinforcement to deaf students. As Freeman, Carbin and Boese (1981) note:

> Many deaf adults can tell you how important residential school was to them socially....They recount endless anecdotes, both amusing and sad. They were a part of these experiences that contributed to their personality and sense of group identity. (p. 247).

Recent research on the social self has suggested that self-appraisals are subject to the structure of the social situation. On this issue, Webster and Sobieszek (1974) state:

> Black people, especially black school children, are often said to have low self-images, as if they carried this image around with them in all circumstances. From our point of view, such a claim is meaningless. Blacks may well have low expectations for their performance at certain tasks, such as schoolwork, and they may have low self-expectations by comparison with white school children; but until the task and the referent others are specified, the claim has neither meaning nor empirical support. There is a good deal of evidence that

> black children change their *self-image* considerably depending on which others they think they are being compared with, and there is at least a small amount of evidence that they have quite positive self-expectations for certain kinds of tasks. This is, of course, just what we would expect from a theory of expectation states; it is not explainable from a theory of a transituational *self-image*. What is surprising to us is that social psychologists would have to be reminded to *rediscover the primary group*. (p. 163).

The structure of the school social situation is also recognized in the Alberta Special Education Study (1977) in terms of direct classroom instruction.

> ...there may be emphasis in segregated classrooms (for hearing-impaired students) on goals in the affective domain...which would result in superior gains in the affective domain. (p. 13).

If we can assume that the equivalent means for self-esteem of hearing-impaired and *normal* students are attributable, at least in part, to the self-esteem enhancement effects of the separate residential school, continued placement in the separate school would seem to be the path to follow for most prelingual severely deaf children if you want them to have positive self-esteem.

C. Limitations Of The Study

Statistical causal statements may be made using hypothesis testing but the theoretical proposition on which this study is based cannot receive equivalent support (Neale and Liebert, (1973). This is because the parameters of self-esteem are not sufficiently defined to permit complete valid sampling of subjects and instruments for measuring self-esteem with more suitable construct validity have not yet been developed (Wylie, 1974).

The accuracy of the self-report is limited by the level of self-awareness, communication ability, and willingness to co-operate. There is also no way of determining the degree of intensity each item on the check list has for each individual since the inventory utilizes a dichotomous "yes" or "no" response rather than a scaled response. The information gathered represents personal values, attitudes, feelings and ideas which are different for each individual, and as Mischel (1977) pointed out, subject to change with messages received. The examiner can look at test results, but self-esteem must be inferred -- it cannot be seen.

Additionally, the results of this study are limited to twenty-seven hearing-impaired students plus three special education hearing-impaired trained teachers at the Alberta

School for the Deaf, during the 1981-1982 school term.

D. Suggestions For Further Research

The results of this study reinforce the need for a proper validity study of the Battle (1976) Self-esteem Inventory (SEI) used with hearing-impaired students. There was enough variability among the scores over time to suggest that self-esteem as measured by Battle's (1976) SEI does not operate in the same manner with hearing-impaired students as it does with hearing students. Validation studies might also clarify if the variability of scores is a result of linguistic difficulties in the sentence structures of the SEI. Examination of Battle's (1976) Inventory revealed that twenty-four of the fifty items on the questionnaire were characterized by five of Rudner's (1978) linguisitic difficulties which biased items against deaf respondents. These items were: conditionals and subtle negative connotations such as "I usually quit when..." and "not good enough"; idiomatic expressions containing comparatives such as "as happy as", and "stronger than"; inferentials such as "when I would" and "would change if"; and low information pronouns such as "I find it hard" and "I usually say it".

Replication of this study in other schools and classes for the hearing-impaired should also be conducted using random sampling procedures and a larger sample. Replication would possibly clarify whether the order of testing effect is peculiar to the sample chosen for this study, or if this effect is common for Battle's (1976) SEI.

Further studies might also focus on the relationship between such variables as family environment, type of educational experience, peer reference group, and body image, to determine their separate effects on self-esteem. In this regard, Wylie (1974) proposed that "more molecular inferred variables may have greater research utility" (p. 320). Implicit in Wylie's (1974) proposition is the need to develop instruments with more suitable construct validity which simultaneously afford an analysis of the requirements of specific situations. This has been done in the field of deafness infrequently (Craig, 1965; Joiner *et al*, 1969).

Additionally, new instruments which recognize the deaf student's language abilities and affective domain should be developed before generalizations about individual self-esteem are made with certainty. Instruments of this nature would be of major benefit

to school psychologists, counsellors, and teachers, helping them to identify individuals who may be in need of some form of psychological intervention. Longitudinal studies are also warranted because it is not clear in the research if the deaf child's self-esteem is inaccurate owing to a language deficit and whether this problem extends across the life-span in age ranges not previously examined.

Future studies should employ trained observers to add greater control to the research. At present, no systematic information is available as to how reports of observers differ according to individual frames of reference. For example, while one observer may report on impressions the subject makes, another observer may report on inferences concerning the subject's self.

E. Concluding Statement

Despite the limitations of this study, some conclusions can be drawn. The analysis revealed a significant relationship between all pairs of the three methods of communication used in administering the SEI questionnaire. The results support Mead's (1934) social interaction theory that a shared mode of language communication is essential for the development of the self. The self-esteem of hearing-impaired students has also been shown to be comparable to that of hearing students on Battle's (1976) SEI, indicating the presence of a peer reference group factor consistent with Festinger's (1954) social-comparison theory.

Although this study has made a contribution to the understanding of the relationship between self-esteem and communication, only by diligent and consistent investigation can the complexity of individual self-esteem be understood and appreciated.

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APPENDIX A

Spache Formula And Fog Formula

APPENDIX A: Spache Formula And Fog Formula

Spache Formula

Step 1: Number of words in the sample: **100**

Step 2: Number of sentences in the sample: **14**

Step 3: Number of "hard words" not on Dale's easy list of words from the sample: **8**

Step 4: Using Table II.1 (Smith, 1980), find the intersection of the number of words and the number of sentences in the sample: **.864**

Step 5: Using Table II.1 (Smith, 1980), find the intersection of the number of words and the number of "hard words" in the sample: **1.315**

Step 6: Add steps 4 and 5 to determine the reading level of the sample: **.864 + 1.315 = 2.179 or 2.2**

Source: Smith, Lawrence L. Rapid computation of the spache revised readability formula. Reading Horizons, Spring, 1980, 20 (3), 193-195.

FOG Formula

Step 1: First 100 words on the page

Step 2: Number of sentences: **14**

Step 3: Average sentence length (Step 1 / Step 2):

100 ÷ 14 = 7.14

Step 4: Number of difficult words (3 or more syllables but not inflected endings nor compound words): **2**

Step 5: Amount of difficult words (Step 4 / Step 1):

2 ÷ 100 = .02

Step 6: Add Steps 3 and 5: **7.14 + .02 = 7.16**

Step 7: Multiply by .4: **7.16 X .4 = 2.864 = 2.9**

Source: Muir, Sharon. Clearing the air of fog and smog. Reading Horizons, Summer, 1978. 18 (4), 285-288.

APPENDIX B

ASL Receptive Comprehension Measure

APPENDIX B: ASL Receptive Comprehension Measure

A native ASL user told a story in ASL to a selected group of students meeting the criteria of (1) and (2) on p. 36 and 37. The students were divided into two groups and tested in two separate sessions in order to measure the students' ASL receptive comprehension more accurately. The author attended both sessions to verify students' attentiveness, comprehension, and participation in answering follow-up questions in ASL. At the end of each session, the ASL tester and the author discussed the evaluations. The final group of twenty-seven students were deemed to be receptively competent in ASL.